

REMARKS

Applicant intends this response to be a complete response to the Examiner's 7 November 2008 Final Office Action. Applicant has labeled the paragraphs in his response to correspond to the paragraph labeling in the Office Action for the convenience of the Examiner.

Preliminary Statement

Applicant points out that the cross-laminate of the present claims differ from any of the laminates disclosed in the cited prior art in a number of characteristics at least two of which are: (1) the coextruded nature of the laminate films and (2) the bonding structure that results from lamination.

The strands of the present invention are formed in the film A and B during extrusion. They are not reinforcing strands as they are made of polymers that have lower melt points than the bonding layer or main layer. In many of the cited prior art, the "strands" are reinforcing fibers that are incased or embedded in a matrix. The reinforcing fibers are separate and distinct from the films or polymers in which the fibers are then encased or embedded. In the current product, the strands are formed during the extrusion process used to form the films. Thus, the present films are prepared in a triplex extrusion process where three different polymers are fed to a die resulting in the formation of a film having a main layer, a bonding layer on one or both sides of the main layer and strands coextruded on top of the bonding layers.

These coextruded films A and B are, then, laminated so that the bonding layer and strands are in a face-to-face relationship, the main direction of the films cross and the strands cross. When laminated, three distinctly different bonds are formed. The first bonds are formed where a strand on film A crosses a strand on film B (crossing points of strands or strand intersecting points). The second bonds are formed where a strand on one film is adjacent the bonding layer of the other film. The third bonds are formed where the bonding layer of one film is adjacent the bonding layer of the other film (areas of the laminate where both bonding layers are devoid of strands). While the bonding strengths can be adjusted to some extent, the bond strength of the first bonds are always greater than the bond strength of the third bonds due to the choice of the polymers making up the strands. The bond strength of the second bonds will depend on the polymer composition of the strand and the bonding layer.

DETAILED ACTION

Claims

The Examiner states as follows:

1. Claims 123-148 are pending.

Applicant acknowledges that claims 123-148 are pending.

WITHDRAWN OBJECTIONS/REJECTIONS

The Examiner states as follows:

2. All objections/rejections of record in the Office Action mailed 7 May 2008, pages 4-15, paragraphs 13-18 have been withdrawn due to Applicant's amendments in the Paper filed 8 September 2008.

Applicant acknowledges the withdrawal of the these rejections.

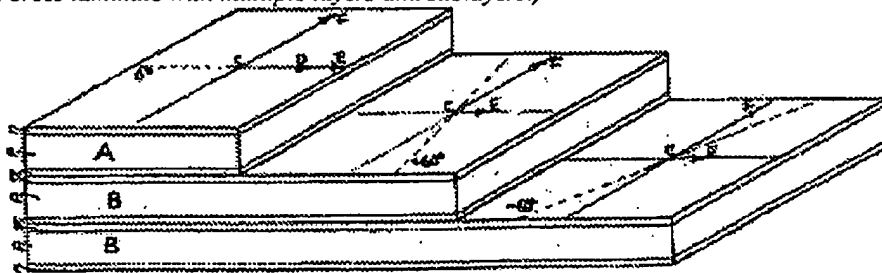
NEW REJECTIONS

Claim Rejections - 35 USC § 103

3. Claims 123-127, 136-137, 143-144 and 147-148 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (WO 01/96102) in view of Rogosch et al. (US 3,687,764) and Britton (US 4,454,184).

The Examiner contends as follows:

Rasmussen (WO 01/96102) teaches a cross-laminate comprising a first coextruded film having a main direction of uniaxial unbalanced biaxial molecular orientation (See p. 5, ll. 26-31 and FIG-2, cross laminate with multiple layers and sublayers.)



The films A and B comprise heat seal layers #c, main layers #a and lamination layers #b, with individual compositions bonded to each other in the laminate as illustrated in FIG-2 as well as bonding of the layers when the layers are wrapped such as in a gusseted tube. Since the layers have different compositions the bonding and adhesive strengths are different. Since some portions of the laminate are bonded at the seam there are regions of some of the laminate substrates that have additional bonding that is not present in other regions (See p. 2, ll. 42-58 p. 11, l. 25 to p. 12, l. 14, p. 5, ll. 26-31, p. 6, ll. 1-9 and FIG-2. The Examiner interprets continuous or discontinuous to mean anything such as color, width, length, thickness, surface property, etc.. The claims do not set forth which side of film A is facing any particular side of film B, whether the main layers are the outermost or innermost surfaces of the laminate or just one is on an outermost surface. The claims do not require

the strands from film A to be in "direct" contact with the strands in film B. Thus, the strands can be in indirect contact or embedded. The claims state the strands intersect each other, however, the strands are not interpreted as intersecting each other in a way that one would ordinarily understand intersect to mean. The strands are interpreted as being in different planes from one another and not required to be in direct contact. Since the separation of the strands includes 0 cm, the strands do not need to be separated at all and can be interpreted as a single polymeric layer of any dimension. Since, the strands do not need to be separated then there also does not have to be regions where there are not strands and thus no regions above and below the strands that are directly bonded to each other.), however, fails to expressly disclose wherein the various layers are continuous or discontinuous, have strands, and the bonding is different between the various layers and regions within the layer.

However, Rasmussen (102) teaches where the structure is made into bags, wherein the layers are continuous when wrapped such as with a gusseted tube and as the layers progress to the opening(s) in the gusseted tube until the layers terminate, becoming discontinuous. Each layer clearly has a pattern whether it is substantially the same, including wave-shaped web with stabilized waves (See p. 8, ll. 28-32.), within the layer or upon the bonded and non-bonded areas with various bonding strengths and the additional layers and or/markings will clearly be applied at various regions in discontinuous and continuous manners to provide for the desired messages (See p. 6, ll. 1-9.). Pigments are added to the various compositions providing for further patterns (See p. 11, l. 25 to p. 12, l. 14.) for the purpose of providing a pleasing, strong bag for containing the packaged goods (See p. 6, ll. 1-9.).

Furthermore, Rogosch ('784) teaches patterned multilayered laminated structures that are reinforced with discontinuous and continuous layers of strands and the bonding is varied based on region and layers to be laminated (See col. 3, ll. 20-55 and FIGs 1 and 11, strands #18, 20 and 21.) for the purpose of reinforcing a laminated structure (See col. 1, ll. 15-26.).

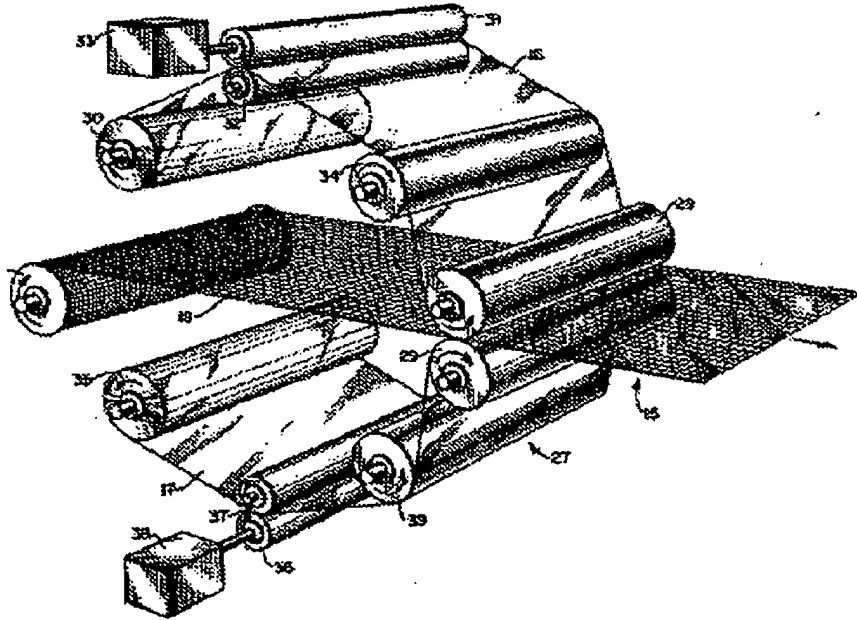


FIG. 1

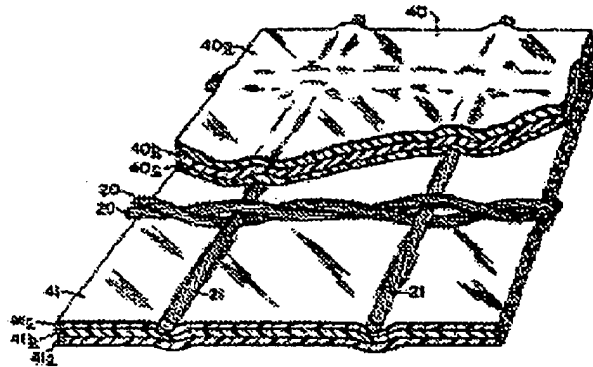
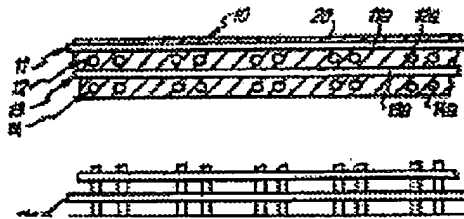


FIG. 11

Britton (184) teaches multiple layers 3, 4, 5 and 6 with strands #11a, #12a, #13a and #14a that are bonded to each other by adhesive where they cross each other (*See col. 2, ll. 42-58, col. 3, ll. 1-19 and FIGs 4 and 1*), continuous films having strands of adhesive above and below the strands with different polymers as illustrated in FIGs 4 and 1 where the strands are not a solid sheet thus discontinuous in the direction between the strands and where the adhesive is not discontinuous between the strands as illustrated in FIG-1 for the purpose of providing a strong laminate (*See col. 2, ll. 42-58, col. 3, ll. 1-19*). Furthermore, combining layers with strands in various orientations and bonding is routine for a person having ordinary skill in the art.



Therefore, it would have been obvious to a person having ordinary skill in the art at the time Applicant's invention was made to provide the above structure with a discontinuous, continuous and patterned structure as expressly taught by Rogosch ('784) and Britton (184) and obviously taught by Rasmussen ('102) in Rasmussen ('102) in order to provide a strong, pleasing multilayered laminate.

The phrases "a separation between array of strands of the discontinuous layer is no more than 8 cm" in claim 123, lines 12 and 23-24 are not limiting since they include values of "0 cm" or no separation.

The phrases "adapted to ****" in claim 124, line 3 and claim 143, line 2 do not limit the claims' scope since said language does not limit the claim to a particular structure (*See MPEP 2111.04*).

For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising". See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase consisting essentially of for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention."). MPEP 2111.03 Also, If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). The "consists/ (consisting) essentially of language is used in claim 141, line 2 and claim 142, line 6.

The combination of Rasmussen (WO 01/96102), Rogosch et al. (US 3,687,764) and Britton (US 4,454,184) do not disclose or even suggest the laminate set forth in amended claims 123 and

purpose of providing a laminate that is light and strong (*See col. 1, ll. 25-28.*).

The Examiner contends as follows:

Regarding claims 129-130, Rasmussen (102), Rogosch ('764) and Britton ('184) teach the laminate discussed above, however, fail to expressly disclose wherein a thickness increase of the films A and B at their respective strand locations is at most 20%/(10%) of a film thickness of the films A and B in adjacent regions of the films A and B devoid of their respective strands.

However, Lappala ('389) teaches that any suitable diameter strand may be used (*See col. 2, l. 45, any suitable diameter can be used.*), which clearly changes the thickness increase. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above thickness increase as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (*See col. 1, ll. 25-28.*).

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Lappala like Rogosch et al. and Britton disclose fibers embedded or incased in a matrix. While Lappala may teach different strand dimension, Lappala does not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

The Examiner contends as follows:

Regarding claims 131-133, Rasmussen (102), Rogosch ('764) and Britton ('184) teach the laminate discussed above, however, fail to expressly disclose wherein a volume of the film A strands and the film B strands is not greater than 15%/(10%)/(5%) of a volume of their respective films.

However, Lappala ('389) teaches that any suitable diameter strand may be used (*See col. 2, l. 45, any suitable diameter can be used.*), which clearly changes the volume. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above volume as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (*See col. 1, ll. 25-28.*).

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Lappala like Rogosch et al. and Britton disclose fibers embedded or incased in a matrix. While Lappala may teach different strand dimension, Lappala does not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

The Examiner contends as follows:

Regarding claims 134-135, Rasmussen (102), Rogosch ('764) and Britton ('184) teach the laminate discussed above, however, fail to expressly disclose wherein a distance from a center-to-center of adjacent pairs of arrays is between 2 mm and 40 mm/(at the highest 20 mm).

However, Lappala ('389) teaches that any suitable pattern may be used (*See col. 2, l. 49-51, any suitable pattern.*) for the purpose of providing a laminate that is light and strong (*See col. 1, ll. 25-28.*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a suitable pattern that provides the above separation as taught by Lappala ('389) in Rasmussen (102) in order to provide a laminate that is light and strong.

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Lappala like Rogosch et al. and Britton disclose fibers embedded or incased in a matrix. While Lappala may teach different strand separation, Lappala does not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

The Examiner contends as follows:

Regarding claim 141, Rasmussen (102), Rogosch (764) and Britton ('184) teach the laminate discussed above, however, fail to expressly disclose wherein the main layer of each of the two films A and B consists essentially of polyethylene or polypropylene.

However, Lappala ('389) teaches wherein the main layer of each of the two films A and B is polyethylene (*See col. 2, l. 31 and ll. 66-67.*) for the purpose of providing a laminate that is light and strong (*See col. 1, ll. 25-28.*).

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to make polyethylene layers as taught by Lappala ('389) in Rasmussen (102) in order to provide a laminate that is light and strong.

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Lappala like Rogosch et al. and Britton disclose fibers embedded or incased in a matrix. While Lappala may teach PR layers, Lappala does not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

5. **Claim 138-140 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (WO 01/96102) in view of Rogosch et al. (US 3,687,764), Britton (US 4,454,184) and Cederblad et al. (US 6,204,207).**

The Examiner contends as follows:

Rasmussen (102), Rogosch (764) and Britton ('184) teach the laminate discussed above, however, fail to expressly disclose wherein an average melting point of the third polymer material and average melting point of the sixth polymer materials are at least about 10°C/(15°C)/(20°C) lower than an average melting point of the first polymer material and an average melting point of the fourth polymer material.

However, Cederblad ('207) teaches where the average average melting point of the polymer material of the layers of the films differ (*See col. 12, ll. 38-53.*) for the purpose of providing firm and light bonds (*See col. 6, ll. 60-67.*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide strands with melting points below that of the films as taught by Cederblad (207) in Rasmussen (102) in order to produce a laminate with firm and light bonds.

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Cederblad relates to a netting including a web comprising crossing strands of different polymers to make a net. The net is then laminated onto a backing or covering. The covering and the net are made separating and are made of different materials. While Cederblad may disclose the polymers melting points, Cederblad does not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

6. Claim 142 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (WO 01/96102) in view of Rogosch et al. (US 3,687,764), Britton (US 4,454,184), Rasmussen (US 4,039,364), Velazquez (US 5,614,297) and Cederblad et al. (US 6,204,207).

The Examiner contends as follows:

Rasmussen (102), Rogosch (764) and Britton ('184) teach the laminate discussed above, and Rasmussen (364) teaches a laminate wherein the main layers are made from HDPE, LLDPE or a blend of the two (*See col. 13, ll. 3-7.*) and the strands in the first surface layers of the films is selected from a polymer made from a copolymer of ethylene (*See col. 13, ll. 11-30.*), however, fail to expressly disclose wherein the bonding layers comprise LLDPE in admixture with 5 - 25% of a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 80 °C, the discontinuous strands comprise a polymer with a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 100 °C or a blend of such copolymer and LLDPE containing at least 25% of the copolymer.

However, Velazquez (297) teaches bonding layers comprising LLDPE in admixture with 5 - 25% of a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 80 °C (*See col. 8, ll. 26-47 and col. 3, l. 46.*) for the purpose or providing a film that can be laminated with one or more films (*See col. 6, ll. 13-17.*).

Furthermore, Cederblad ('207) teaches wherein the discontinuous layers comprise a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 100 °C (*See col. 12, l. 42 wherein the melting point is 67 °C/152 °F.*) for the purpose of forming firm bonds (*See col. 6, l. 63.*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a laminate with a surface layer of LLDPE and ethylene with the above melting point range and the above strands as taught by Velazquez (297) and Cederblad (207) in Rasmussen ('102) to provide a laminate as described above.

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Cederblad relates to a netting including a web comprising crossing strands of different polymers to make a net. The net is then laminated onto a backing or covering. The covering and the net are made separating and are made of different materials. While Cederblad may disclose the polymers melting points, Rasmussen '364, Velazquez and Cederblad do not cure the

deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

7. **Claim 145** stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (WO 01/96102) in view of Rogosch et al. (US 3,687,764), Britton (US 4,454,184) and Johnston (US 3,340,128).

The Examiner contends as follows:

Rasmussen (102), Rogosch (764) and Britton ('184) teach the laminate discussed above, however, fail to expressly disclose wherein the polymer material of the strands of at least one of the films A and B includes colored material that makes the colored strands visible through at least one side of the cross-laminate.

However, Johnston ('128) teaches where the polymer material of strands of at least one of the arrays comprises coloration material in sufficient amount to render the at least one colored discontinuous layer visible through at least one side of the cross-laminate (*See col. 24, l. 58.*) for the purpose of providing a decorative motif (*See col. 24, ll. 59-60.*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention was made to provide strands with coloration as taught by Johnston (128) in Rasmussen (102) in order to provide a product having a decorative motif.

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. While Johnston may disclose color, Johnston does not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

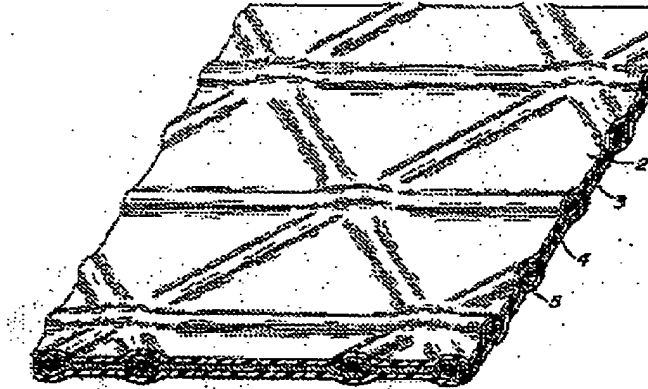
8. **Claim 146** stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (WO 01/96102) in view of Rogosch et al. (US 3,687,764), Britton (US 4,454,184), Johnston (US 3,340,128) and Lappala (US 2,851,389).

The Examiner contends as follows:

Rasmussen (102), Rogosch ('764), Britton ('184) and Johnston (128) teach the laminate discussed above, however, fail to expressly disclose wherein the cross-laminate has a thickness at its thickest of about 0.3 mm, and: wherein an exterior surface of the film A is corrugated to form a visible pattern of striations extending in one direction, where a spacing of the striations being at most about 3 mm: the main layer and the bonding layer of the film A are substantially transparent to enable the colored strands to be visible when the laminate is observed from one of the exterior surfaces of the cross-laminate, and a depth of the corrugations is sufficient to impart a three-dimensional effect to the cross-laminate such that the strands appear to be spaced internally from the exterior surface of the film A a distance substantially greater than an actual maximum thickness of the film A.

However, Lappala ('389) teaches a laminate thickness at its thickest of about 0.3 mm (*See col. 3, ll. 34-35 and col. 2, l. 45 wherein the films are less than 0.015 in (0.381 mm).*), the main layer and

the bonding layer of the film A are substantially transparent to enable the colored strands to be visible when the laminate is observed from one of the exterior surfaces of the cross-laminate (*See FIG-3, #2.*), where the spacing of the striations being at most about 3 mm (*See FIG-3, corrugations created by strands.*) the main layer and the bonding layer of the film A are substantially transparent to enable the colored strands to be visible when the laminate is observed from one of the exterior surfaces of the cross-laminate, and the depth of the corrugations being sufficient to impart a three-dimensional effect to the cross-laminate such that the strands appear to be spaced internally from the exterior surface of the film A a distance substantially greater than an actual maximum thickness of the film A (*See col. 2, l. 7.*), for the purpose of providing a laminate that is light and strong (*col. 1, ll. 25-28*).



Therefore, it would have been obvious to a person of ordinary skill in the art the time of applicant's invention to provide such a spacing and configuration as taught by Lappala ('389) in Rasmussen (102) in order to provide a light and strong laminate.

Applicant reasserts his arguments relating to the Rasmussen 102, Rogosch et al. and Britton combination here. Johnston and Lappala do not cure the deficiencies of the Rasmussen 102, Rogosch et al. and Britton combination as the resulting laminate would just have smaller diameter embedded fibers. Applicant therefore, respectfully requests withdrawal of this rejection.

ANSWERS TO APPLICANT'S ARGUMENTS

The Examiner contends as follows:

9. All of Applicant's arguments (pp. 11-25 of Applicant's Paper filed 8 September 2008) have been carefully reviewed and is noted that Applicant's arguments are substantially not commensurate in scope with the claims. Applicant's claims are significantly broader in scope than Applicant argues and thus are not persuasive in distinguishing the prior art of record.

Applicant may want to consider amending the claims and possibly the Specification to capture limitations that may be disclosed in the Figures while being careful not to add new matter.

As discussed above, the claims do not define precisely what is continuous or discontinuous, the Examiner interprets said terms to mean anything such as color, width, length, thickness, surface property, etc..

The claims do not set forth which side of film A is facing any particular side of film B, whether the main layers are the outermost or innermost surfaces of the laminate or just one is on an outermost surface.

The claims do not require the strands from film A to be in "direct" contact with the strands

in film B. Thus, the strands can be in indirect contact or embedded. The claims state the strands intersect each other, however, the strands are not interpreted as intersecting in a way that one would ordinarily understand intersect to mean. The strands are interpreted as being in different planes from one another and not required to be in direct contact.

The strand separation per independent claim #123 includes 0 cm, thus, the strands do not need to be separated at all and can be interpreted as a single polymeric layer of any dimension. Since, the strands do not need to be separated then there also does not have to be regions where there are not strands and thus no regions above and below the strands that are directly bonded to each other.).

10. In response to Applicant's arguments (p. 11 of Applicant's Paper filed 8 September 2008) that none of the prior art includes bonds between the filaments, it is noted that the filaments of the prior art are bonded to each other in the manner as Applicant claims, however, as discussed above the claims do not require the strands to be "directly" bonded to each other.

In response to Applicant's arguments (pp. 16-17 of Applicant's Paper filed 8 September 2008) regarding the bonding between the strands and the bonding where the strands are not located, it is noted as discussed above that Applicant does not require its strands to be directly bonded to each other and the strands can have a spacing of 0 cm per independent claim #123. Thus, Applicant's attempt to distinguish embedded strands is not persuasive since Applicant's claims also allow for embedded strands or a singular strand being the entire width of the laminate or a width less than the entire width of the laminate.

In response to Applicant's arguments (pp. 18-21 of Applicant's Paper filed 8 September 2008) regarding the secondary references, it is noted that Applicant's arguments are based on an inaccurate premise of how its strands are bonded to each other as set forth in the claims. As discussed above, Applicant's claims do not state the strands as being directly bonded to each other. Applicant's arguments regarding the spacing and coverage area is lacking since independent claim #123 provides for a spacing of 0 cm which is not a spaced array of strands.

In response to Applicant's arguments (pp. 22-25 of Applicant's Paper filed 8 September 2008) regarding the secondary references and the conclusion to the arguments, it is noted that Applicant's arguments are similar as discussed above stating the references do not teach strand to strand bonding as Applicant claims. As discussed above, Applicant's "strand to strand bonding" includes "indirect" bonding. Applicant does not require the strands to be directly bonded to each other. If Applicant intends for its strands to be directly bonded to each other then Applicant may want consider setting forth such language while being careful not to add new matter.

Applicant has amended the application to distinguish the claims over the prior art. The laminates of this invention are formed from films that are extruded to include a main layer, a bonding layer and strands, where the strands are coextruded onto a top of the bonding layer. Then two such films are laminated with the bonding layers including the strands facing each other, then the resulting lamination produces three different types of bonds. Such laminates are unique and patentably distinct from the cited prior art.

Having fully responded to the Examiner's Non-Final Office Action, Applicant respectfully urges that is application be passed onto allowance.

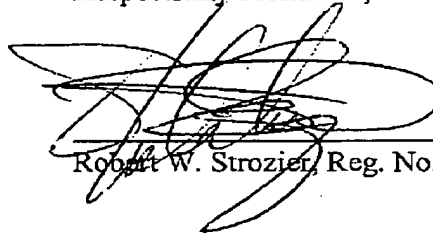
If it would be of assistance in resolving any issues in this application, the Examiner is kindly invited to contact applicant's attorney Robert W. Strozier at 713.977.7000

The Commissioner is authorized to charge or credit Deposit Account 501518 for any

additional fees or overpayments.

Respectfully submitted,

Date: March 9, 2009

A handwritten signature in black ink, appearing to be 'R. Strozier', written over a horizontal line.

Robert W. Strozier, Reg. No. 34,024